

The Antenna Sample Confirmation

File Number: SNW-QR-D-007/A.0

Customer	Shenzhen Alon Communication Technology Co., LTD				
Project Name	T2 BWG antenna	Date	2023-11-06		
Project NO.	SN1135	Notes	LDS		
Frequency Range	WIFI (2.4G/5G) /GPS				
Designed By	RF Engineer	Structural Engineer			
Checked By	Engineering Manager				
Client's Approval					

Designer: SINAWELL Electronics(Shenzhen) Co., Ltd.

Add: 712-717, Block A Jinfulai Building, 49-1 Dabao Road, Xinan 28th area, Baoan District, Shenzhen, China

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1. Overview of specifications

This specification describes the condition of the T2 built-in WIFI LDS antenna in the 2.4G/5G/GPS frequency band

2. Antenna appearance



3. Electrical performance

3.1. Antenna frequency band

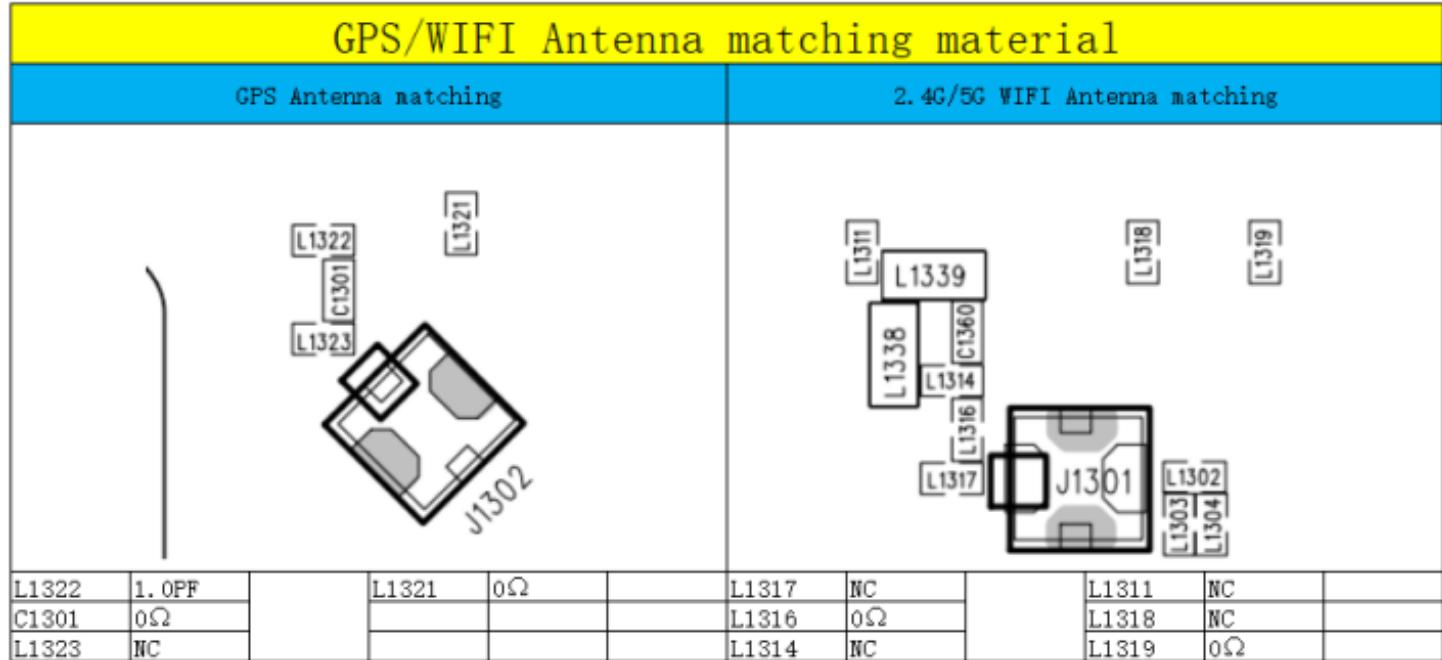
	Antenna
Transmit frequency band (MHz)	2.4G /5G/GPS

3.2. Matching circuit

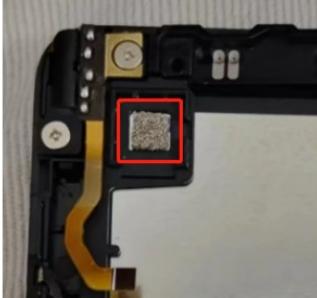
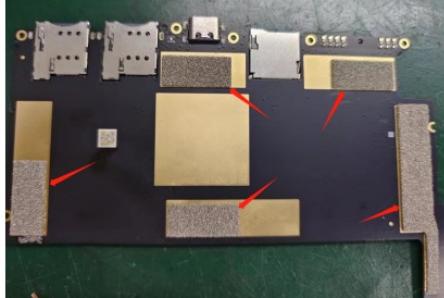
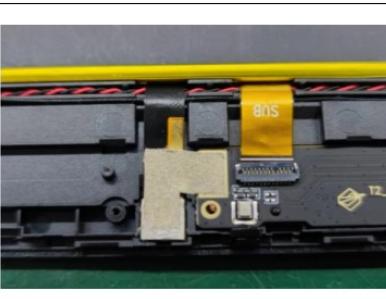
The test point is behind the antenna connector (RF test port), see the image below

1. Antenna matching.

Note: Antenna matching electronic material to use 1% accuracy material



3.3 Environmental Treatment

Environmental treatment		
		
The camera is grounded with conductive foam as shown in the picture	The mainboard is grounded with conductive foam as shown in the figure	The horn is earthed with wire foam as shown in the figure
		
Shield cover copper foil paste area	The prototype small board is grounded with conductive cloth on the front camera as shown in the figure	Small board grounding mode: The small board is grounded with conductive foam as shown in the figure

4. Exterior structure

4.1. Antenna material: LDS

5. Remarks

(Electrical Performance test report)

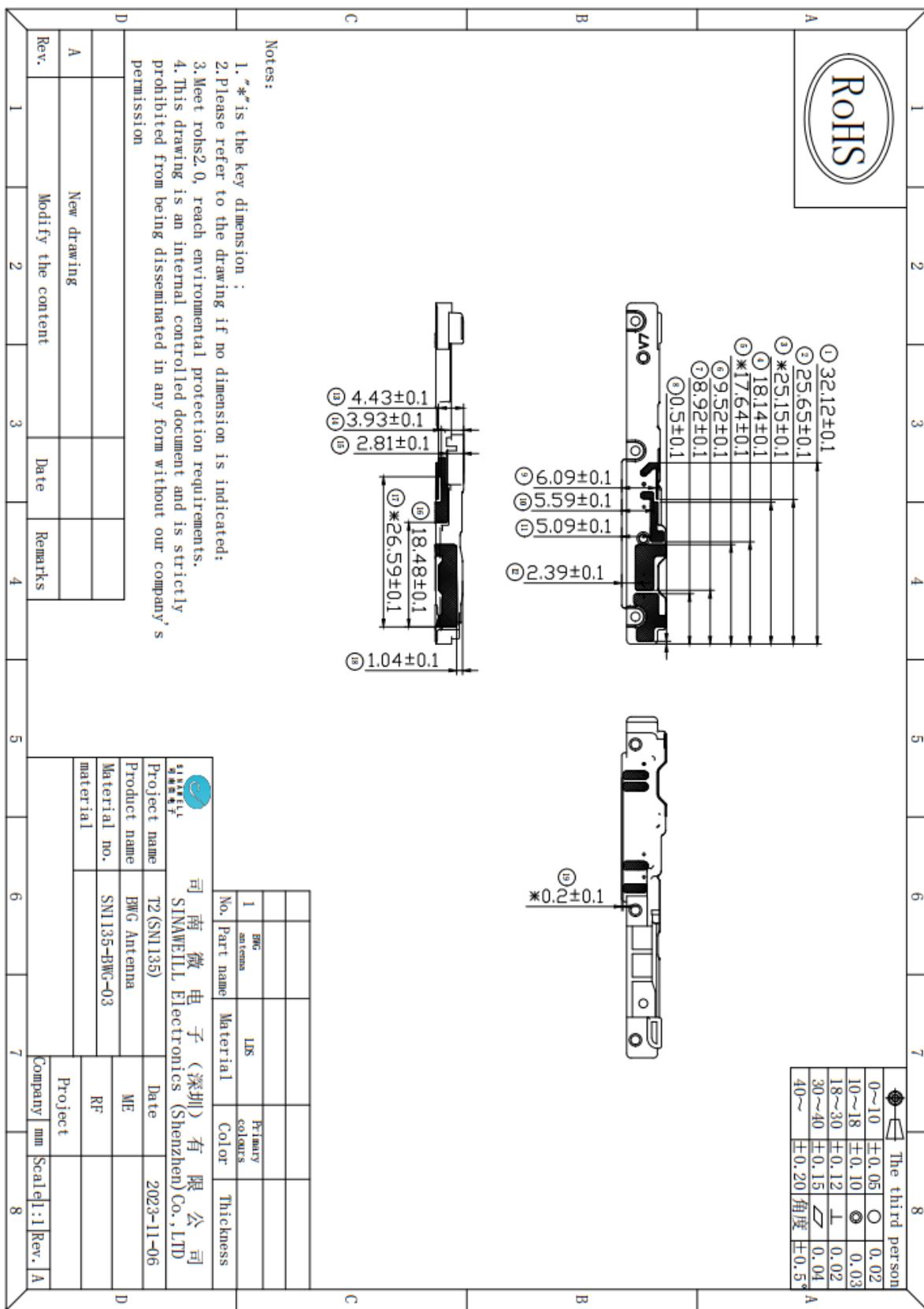
In the electrical performance test report, 3D darkroom data provided by the manufacturer,

The following table format

Appendix I: Structural drawings

Appendix 2: Electrical Performance test report

Appendix I: LDS structural drawing

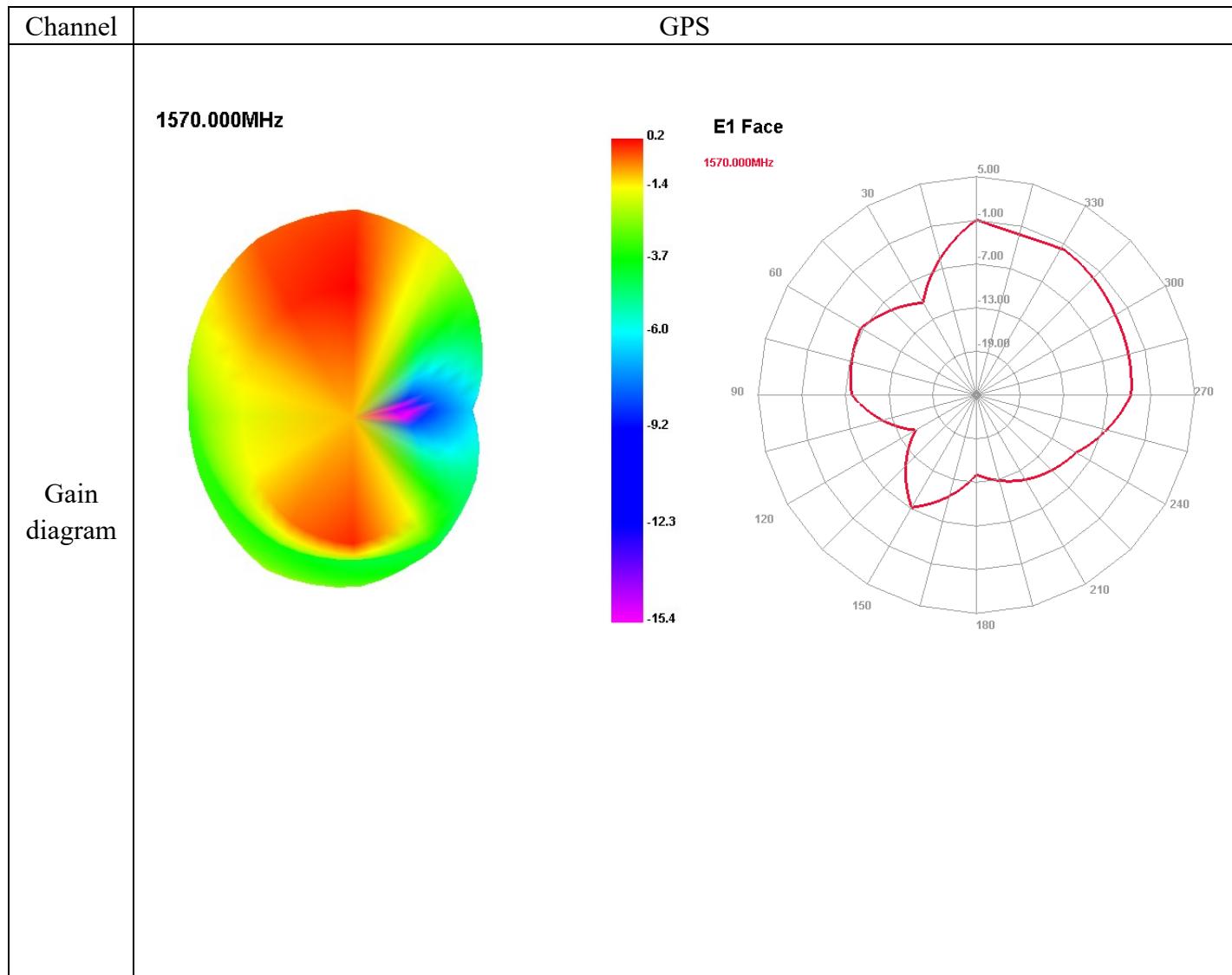


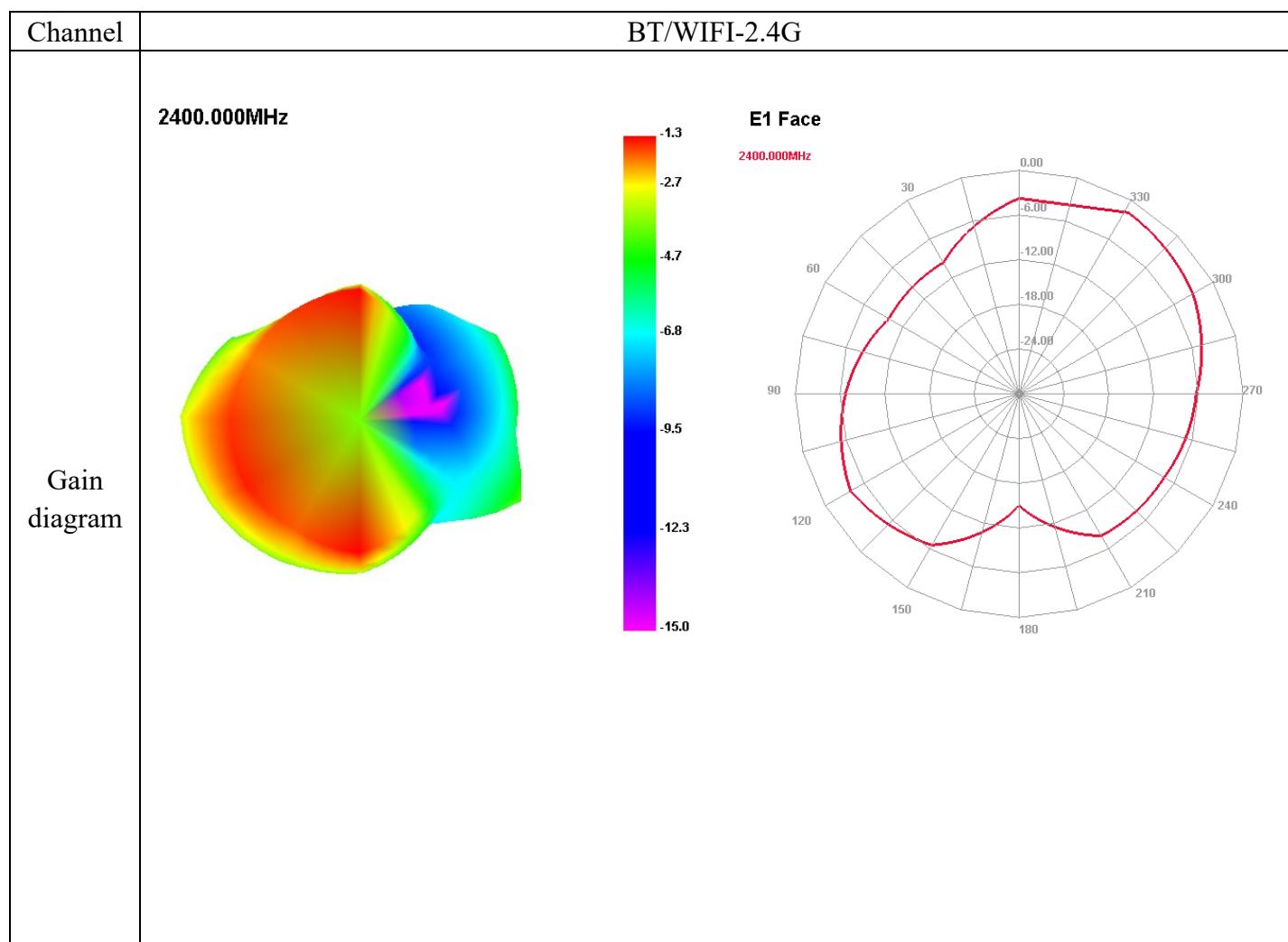
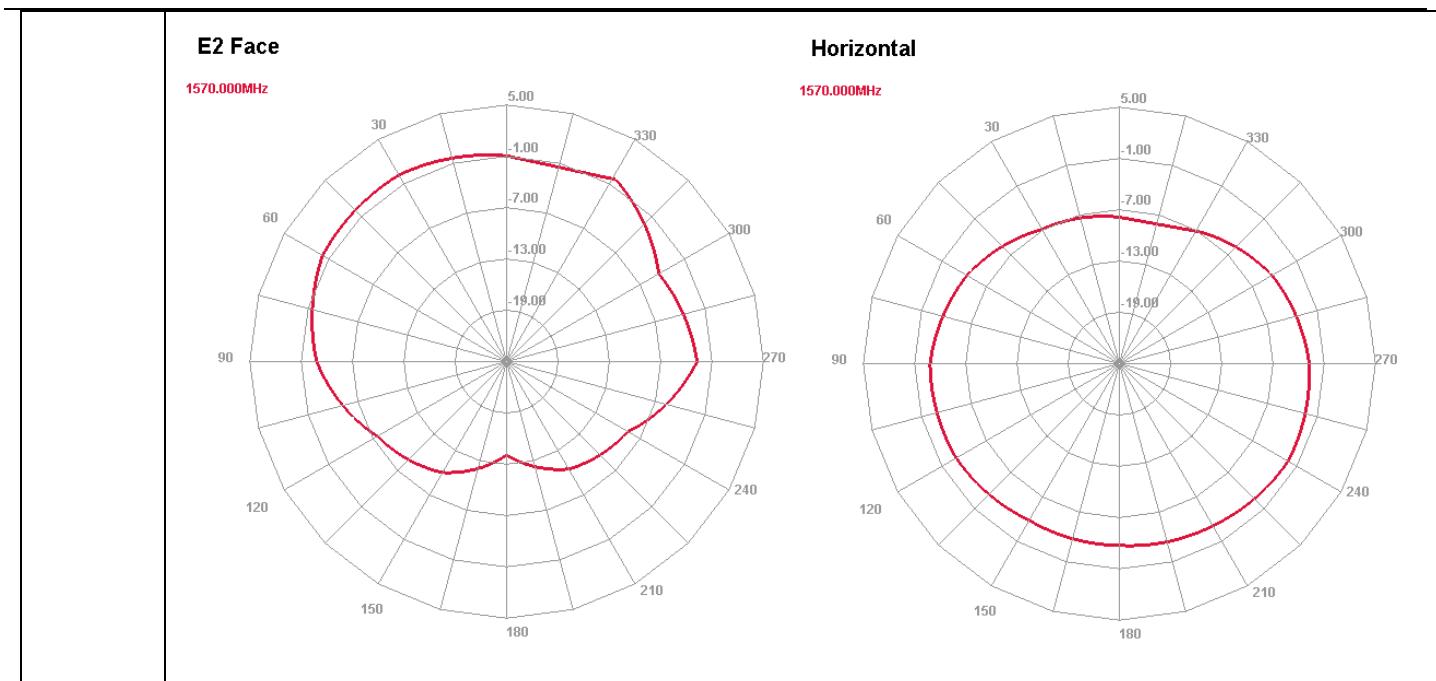
Appendix II: 3D Test report

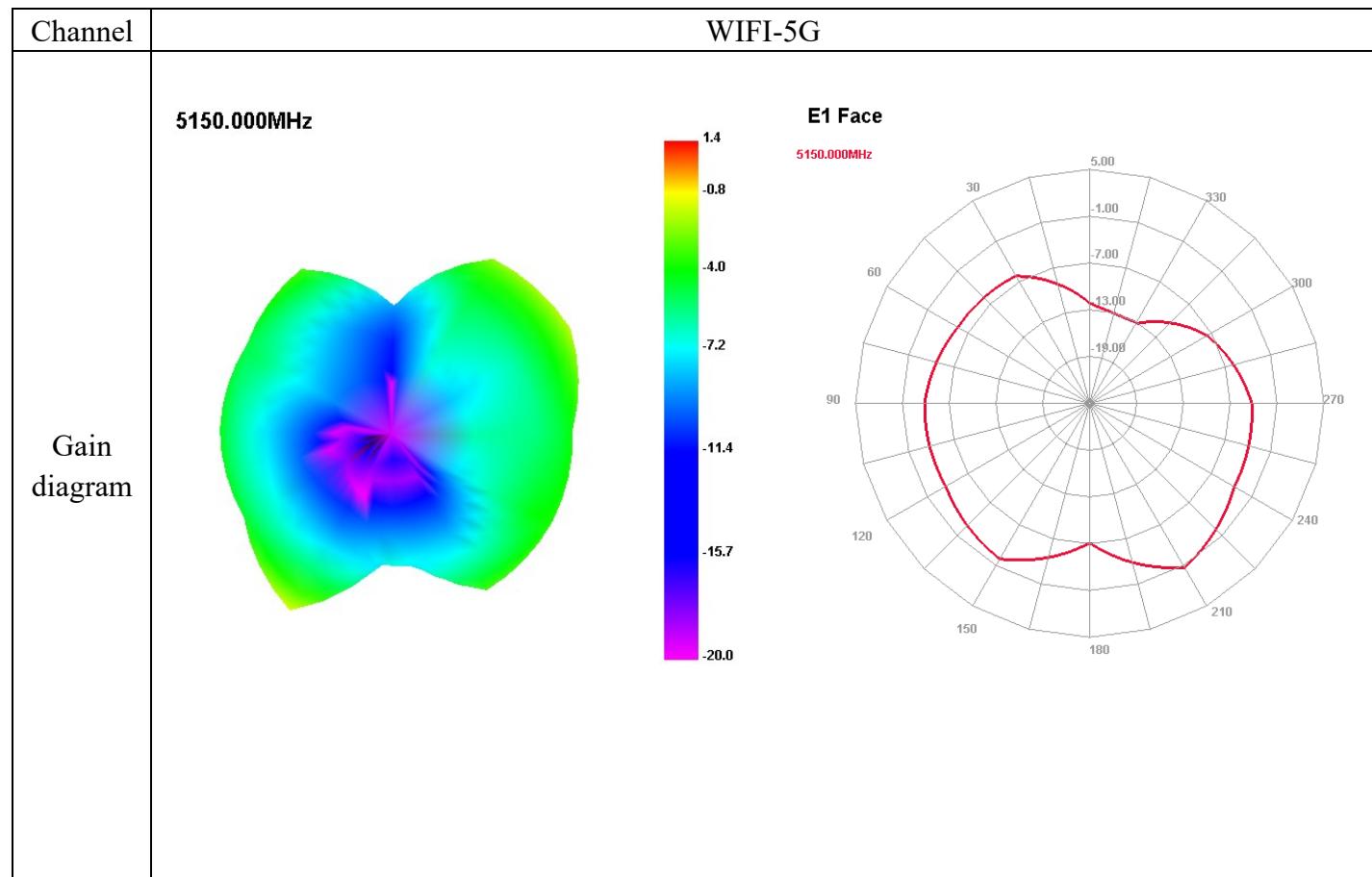
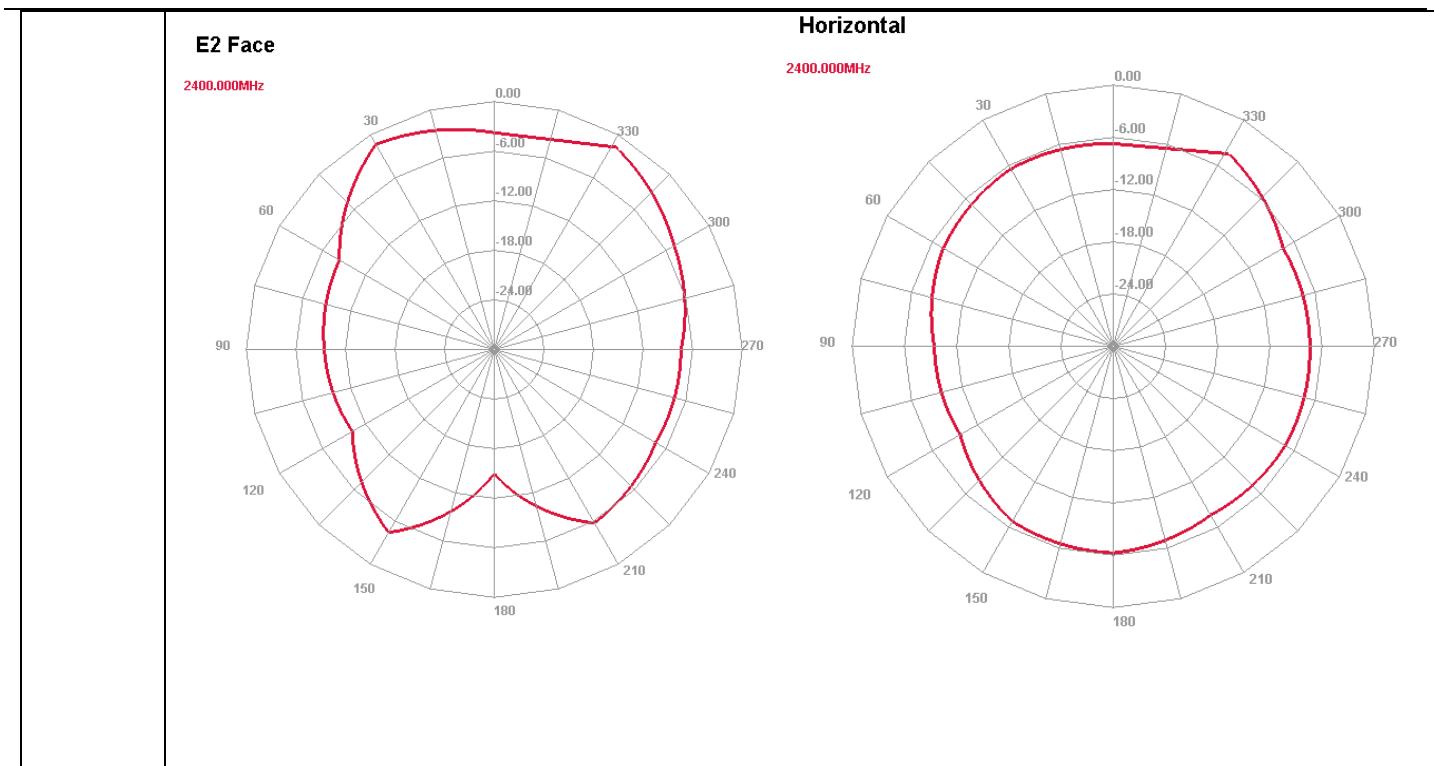
2.4 G	Data Rate	Channel	TRP	TIS
11B	11M	1	13.14	81.06
		6	13.26	81.85
		11	12.89	81.71
5G	Data Rate	Channel	TRP	TIS
11A	6M	40	9.68	86.64
		56	9.93	86.41
		157	10.32	86.47
GPS	Channel	TRP	TIS	
GPS	0	41.63	153.59	

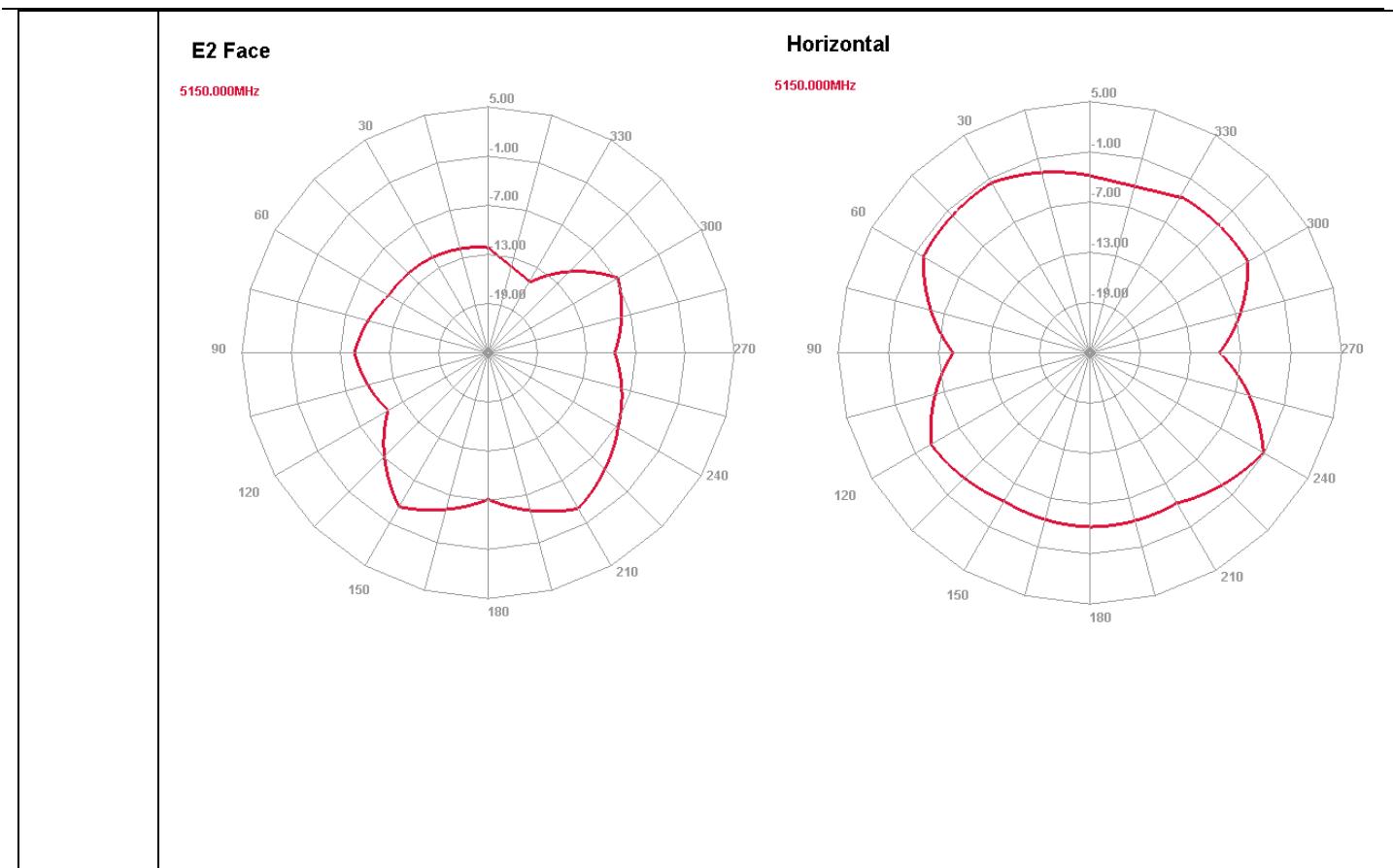
GPS/WIFI			
Freq (Mhz)	Effi (%)	Effi (dbm)	Gain (dbi)
1510~1590	38.19	-4.18	0.23
2400~2500	40.07	-3.91	-1.46
5150~5850	45.22	-3.45	0.35

Field intensity pattern









Foot-inch reported

	Client	Aron Communications	Project name	T2 BWG antenna		Date of measurement	2023-11-06	
	VENDORS	Sinanwei	Measuring tools	Quadratic element		Units of measurement	mm	
NO	Size	Tolerances	Measured 1	Field Measurement 2	Field Measurement 3	Field Measurement 4	Field Measurement 5	Judging
1	25.15	+ / - 0.10	25.19	25.22	25.17	25.21	25.19	OK
2	17.64	+ / - 0.10	17.60	17.59	17.62	17.64	17.62	OK
3	26.59	+ / - 0.10	26.63	26.62	26.64	26.60	26.64	OK
4	0.2	+ / - 0.10	0.24	0.23	0.25	0.24	0.22	OK
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Watchmaking: Yeo Shimei Audited: Chen De

Salt spray report

Customer name	Aron Communications	Project name	T2 BWG antenna	TESTERS	Yeo Shimei
Number of tests	5PCS	Test items	Salt Spray	Test date	2023-11-06
Testing Conditions	1. Temperature: 35°C				
	Humidity: 98%, PH: 6.5-7.2				
	3. Inside temperature: 37°C				
	4. Test duration: 48 hours				
	5. Potion concentration: 5%NaCl				
	Steps 1 Place the product inside the salt spray case				

Test steps	2. Place the product at the correct Angle				
	3. Set the relevant parameters and start spraying				
	4. After taking out the experimental product, rinse the product with clean water and place it at room temperature for two hours before testing				
Test	Items	Pre-test	After the test	Test results	Remarks
	Plating	Good	good	Qualified	
	Electrical conductivity	Good	Good	Qualified	
	Resistance	Good	Good	Qualified	
	Binding force	Good	Good	Qualified	

Tabulation: Yeo Shimei

Audited: Chen De

High temperature, high humidity test

Customer name	Aron Communications	Project name	T2 BWG antenna	Test Man	Yeo Sai Mei
Number of tests	5PCS	Test items	High temperature	Test date	2023-11-09
Purpose of testing	Used to test and evaluate the product in high, low temperature, constant humid heat environment load, storage, its electrical performance and the structure or components can meet the relevant requirements				
Test conditions	1. Temperature: High temperature 80°C 2. Humidity: 95% 3. Duration of test: 12H 4. Before the test, the function, safety and appearance of the product must be tested, and the test can be carried out after it is confirmed that it is normal				
Test steps	1. Place the test OK sample into the test chamber 2. Place the product in accordance with the correct Angle. If necessary, the product can be continuously outside through the special window with a wire or other tools				



	3. Set the relevant parameters, edit the program, press the start button to test 4. When you need to observe or verify the results in stages, you can complete it through a special window, or take out part of the sample for testing 5. Take out the product after the test, and place the product at room temperature for 2 hours before the test		
Test	Items		
	Step 1 Look	No peeling or peeling of the coating	OK
	2 Melt the plating	No abnormalities (no shedding, no oxidation, no deformation)	OK
	3 Conductivity	Good	OK
	Step 4: Resistance	Less than 1Ω	OK
	5 Join forces	The Hundred grid Test	OK

Tabulation: Yeo Shimei Audited: Chen De

Client Name	Aron Communications	Project name	T2 main antenna	Test Man	Yang Shimei
Number of tests	5PCS	Test items	Bonding Power	Test date	2023-11-06
1. Test purpose: The purpose of this test is to study the reliability of the coating or the adhesion between the coating and the collective.					
2. Test tool: 3M610 tape					
3. Test conditions: at room temperature (20-25°C)					
4. Test steps: A. According to the binding force test requirements, use the product after 3-4 hours of drying.					
B. In the designated 10×10MM area to mark 1X1 mm square.					
C. Mark off part of the depth should reach the substrate.					
E.. Peel off the tape instantaneously at an Angle of 45-90°.					
F. Repeat 3 times, judging by how the scratched area falls.					
5. Acceptance criteria: Use 3M610 to reach level 0-1 or according to the product sample provided, but can not exceed level 2.					
Inspection	Grade	Description			
	0	Cut edges smooth with no bars falling.			
	1	A little adhesive layer falls at the intersection of the incision, but the cross-cutting area can not be significantly more than 5% affected.			

standard	2	At the intersection of the incision and/or the edge of the extended incision, the adhesive layer is shed, and the affected cross-cutting area is significantly greater than 5%, but not significantly greater than 15%	
	3	Part or all of the cutting edge of the adhesive layer is peeled off in large pieces, or/and part or all of the different parts on the grid are peeled off, and the affected cross-cutting area is obviously greater than 15%, but not significantly greater than 35%.	
	4	A large strip of the extended cut edge of the coating, or/and some lattice partially or completely off, the affected cross-cut area is significantly greater than 35%, but not significantly greater than 65%.	
	5	Flaking is more than grade 4.	
Picture area			
Test level	<input checked="" type="checkbox"/> Level 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	Decision Result	OK

Hundred test report